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ACADEMY OF NATURAL SCIENCES

OF

PHILADELPHIA.

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COMMITTEE ON PUBLICATION:

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February 6, 1896.

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lateral line, more conspicuous posteriorly; a dark bar half as wide as eye, running from eye downward across cheek to anterior end of interopercle; bordered on each side by a light streak, a similar bordered bar running across top of head, slightly turning around posterior margin of orbit, downward along margin of preopercle, and ending on posterior end of interopercle; snout abruptly black, lips dark; fins all dark and slightly mottled; tips of ventral, anal and caudal rays a little lighter; caudal and pectoral dark at base; slips on top of head black; belly very finely dusted with minute dark points.

This species is not uncommon in Puget Sound; the types are three specimens taken on channel rocks at Point Orchard, near Seattle, by Miss Maud Parker and Mr. Adam Hubbart, members of the Young Naturalists' Club of Seattle. The largest of them is 4 inches in length. The types are in the Museum of the Leland Stanford Junior University. Unfortunately the life colors of this brilliant species were not taken. There is, in life, much red on the lateral plates and elsewhere on the body and fins. This disappears at once in alcohol.

NEW SPECIES OF FUNGI FROM VARIOUS LOCALITIES.

BY J. B. ELLIS AND B. M. EVERHART.

Fomes alboluteus E. & E.

On charred trunks of *Abies subalpina* Eng. Mountains of Colorado, 10,000 ft. alt. July 1894. Prof. C. S. Crandall.

Effused and laterally connate for several centimeters, about 1 cm. thick and 5–6 cm. broad, immarginate and entirely resupinate or, in some specc. with a very slight, reflexed margin, of soft, spongy texture and light orange color within and without. Pores large, 1-2 mm. diam., with a thin, membranaceous, white, toothed margin. The spores perhaps from immaturity could not be satisfactorily made out.

Grandinia fuscolutea E. & E.

On underside of rotten logs and limbs lying on the ground, Newfield, N. J., Oct. 1894.

Membranaceous, soft, 1-10 cm. diam., bright-yellow, lutea, at first and tuberculose-granulose, becoming darker and smoother in drying; margin white, cottony or arachnoid; granules small, whitish at the apex. Spores, elliptical, dull yellow, 5—6 × 3 μ. On clavate-cylindrical basidia about 15 × 6 μ, with 2—4 short, 4—5 μ, sporophores. The hymenium at length becomes rimose, exposing the white subiculum.

Peniophora trachytricha E. & E.

On bark of decaying oak limbs, Newfield, N. J., Oct. 1894.

Thin, milk-white at first, becoming yellowish and thicker as the hymenium forms, extending along for 6 inches or more, surface at first minutely granular, at length floccose-tubercular, resembling *Kneiffia*. Margin thin granular-cottony. Cystidia subcylindrical, coarsely tubercular-roughened, or sometimes with the upper part smooth and the tip swollen. 100–120 × 10–12 μ, the free projecting ends about 40–50 μ long, basidia clavate-cylindrical 12–15 × 3½–4½ μ. Spores oblong, obtuse, 7–8 × 3–3½ μ, hyaline.

Apparently allied to *P. hydnoides* Cke. and Massee.

Bovista cellulosa E. & E.

Beneath the surface of the ground. Fort Collins, Colorado, August 1894. C. F. Baker, No. 302.

Inner peridium depressed-globose, 1–1½ cm. diam., coriaceous, tough, grayish outside, clothed around the sides with a honey-colored, favose-cellulose coat 1–2 mm. thick, and this again clothed with a thin, grayish-yellow membrane to which the soil adheres externally forming with this membrane, an outer peridium 1–1½ mm. thick and separating from the cellular layer with a clean, smooth surface. Capillitium homogeneous, filling the inner peridium, olivaceous, composed of simple or sparingly branched threads 3–4 μ thick and yellowish-hyaline, with abundant, globose, slightly roughened or wrinkled, olivaceous spores 3–4 μ diam.

This is closely allied to *Bovista circumscissa* B. & C. from which it differs in its cellular coat and smaller, not so distinctly roughened spores. *B. circumscissa* has spores 5½–6½ μ diam.

Lycoperdon alpigenum E. & E.

On the ground at the timber line, above, Cameron Pass, N. W. Colorado, alt. 11,500 ft., July 1894. Prof. C. S. Crandall. No. 17.

About 2 cm. diam. Peridium coriaceous, about 1 mm. thick, brown outside and rimose-squamulose above. Capillitium rudimentary, consisting of a few coarse, 6–10 μ diam., sparingly branched or entirely disconnected, yellowish brown threads without any attachment. Sterile base occupying about ⅓ part of the cavity, pale yellowish. Spores globose, nearly smooth 3½ μ diam., with a short pedicel.

Capnodium Lygodesmiæ E. & E.

On living stems of *Lygodesmia juncea*. Fort Collins, Colorado, Oct. 1894. C. F. Baker, No. 293.

Mycelium, consisting of closely septate threads 4–6 μ thick, loosely interwoven, forming a thin, dirty drabcolored coating enveloping the stems. Perithecia numerous, globose, ovate, or oblong-elliptical 20–90 × 20–40 μ, obtuse at the apex, with coarsely cellular, olive-brown walls. Sporules not abundant, oblong-elliptical, 5–8 × 3 μ, hyaline. The specc. show only the pycnidial stage of growth, no asci being observed.

Acanthostigma scopulorum E. & E.

On dead stems of *Ligusticum scopulorum*. Mts. west of "Steamboat Springs," Colo., July 1894. Prof. C. S. Crandall, No. 123.

Perithecia gregarious, erumpent-superficial, globose, 75–110 μ diam. surrounded by a crooked, branching, creeping mycelium which blackens the surface of the stem, and clothed with straight, black, 3–4–septate, spreading, bristles, 75–110 μ long and 6–7 μ thick at base, tapering above to an obtuse point. Asci clavate-cylindrical, sessile, 55–65 × 10–12 μ, 8-spored. Paraphyses obscure or wanting. Sporidia crowded fusoid, 4-septate, the next to the upper cell swollen, 22–30 × 4–4½ μ, slightly curved, yellowish-hyaline.

Distinguished from *A. decastylum* Cke., by its smaller perithecia, with more abundant bristles and by the swollen joint of the sporidia.

Herpotrichia purpurea E. & E.

On dead culms and leaves of *Deyeuxia Suksdorfii* Scrib. Easton, Wash., July, 1892. Prof. C. V. Piper, No. 344.

Perithecia scattered, superficial, hemispherical, ½–¾ mm. diam., clothed with a dense coat of purple hair 90–140 × 3–3½ μ, continuous or sparingly septate, soon deciduous above, leaving the apex of the perithecium and the papilliform ostiolum bare.

Asci cylindrical, 40–50 × 3–7 μ, short-stipitate, aparaphysate, 8-spored. Sporidia biseriate, fusoid-oblong, hyaline, becoming faintly uniseptate, very slightly curved, subobtuse, 9–14 × 1½–2 μ.

Letendraea luteola E. & E.

On decayed wood. Ohio (Morgan No. 1,109.) Perithecia gregarious, superficial, thick-membranaceo-carnose, ⅓–½ mm. diam., yellow-farinose-pubescent above, mostly more or less collapsing. Ostiolum short-cylindrical, stout. Asci cylindrical, 75–85 × 5–6 μ, attenuated below into a stipe 30–35 μ long, indistinctly paraphysate, 6–8-spored. Sporidia, uniseriate, oblong, slightly narrowed at each end, but obtuse, often slightly inequilateral, uniseptate, but not constricted, pale-brown, 8–11 × 3–3½ μ, lying end to end in the asci.

Rosellinia geasteroides E. & E.

On decaying stem of *Arundinaria*, St. Martinville, La., July, 1895. Rev. A. B. Langlois, 2,404.

Perithecia gregarious, superficial, depressed-globose, ¾ mm. diam., with a distinct, papilliform ostiolum, wall of the perithecium double, the outer coat membranaceous, soon splitting into about 5 reflexed lobes, and resembling a minute *Geaster*. Asci cylindrical, 100–110

(p. sp. 75–80) x 6 μ, paraphysate, 8-spored. Sporidia uniseriate, inequilaterally-elliptical, soon opake, 10–12 x 5 μ.

Rosellinia limoniispora E. & E.

Proc. Acad., Phil. 1894, p. 326. The habitat of this species was erroneously given as on *leaves* of *Fraxinus*. It should be on dead shoots or limbs of *Fraxinus* buried in the ground. Mr. B. also finds it on dead limbs of *Ailanthus* and of *Juglans cinerea* in similar situations, its entire growth and development being subterraneous. In the specc. on *Ailanthus* there are traces of a thin, light colored (cinereous) subiculum more or less distinct. The young perithecia are ovate-globose, but become more or less flattened above.

Rosellinia muriculata E. & E.

On inner surface of bark of *Populus monilifera*, Rockport, Kansas, Dec., 1894. E. Bartholomew, No. 1,613.

Perithecia superficial, ovate, slightly contracted below, 200–220 x 180–200 μ, clothed with a short, white pubesence; ostiolum minute, papilliform. Asci cylindrical, 75 x 6–7 μ p. sp. 55–60 μ long. Short-stipitate, paraphysate, 8-spored. Sporidia obliquely uniseriate, oblong elliptical, pale brown, 8–10 x 4–5 μ.

The white pubescence soon disappears, leaving the perithecia black and muriculate-roughened.

Melanopsamma borealis E. & E.

On inner surface of loosened bark of fir trees, Newfoundland. Rev. A. C. Waghorne.

Perithecia gregarious, erumpent-superficial, ovate-globose, rough, 250–300 μ diam., with a conic-papilliform ostiolum. Asci clavate-cylindrical, 90–100 x 8–10 μ, with filiform, somewhat branched paraphyses. Sporidia uniseriate, oblong-ovate, uniseptate and constricted, hyaline, 14–16 x 5½–6½ μ.

Melanomma boreale E. & E.

On weather-beaten wood. Newfoundland, Dec. 1894. Rev. A. C. Waghorne.

Perithecia erumpent-superficial, gregarious, ovate, about ⅓ mm. diam., subcarbonaceous, sometimes collapsing above. Ostiola at first inconspicuous, at length conic-cylindrical, truncate. Asci clavate, cylindrical, short-stipitate, paraphysate, 8-spored p. sp. 50–55 x 4–5 μ. Sporidia obliquely uniseriate or subbiseriate above, oblong,

obtuse, 3-septate and slightly constricted at the septa, sometimes very slightly curved, pale-olivaceous 9–11 x 3–3½ μ.

Melanomma nigricans E. & E.

On rotten wood. Ohio. Morgan.

Perithecia densely crowded, forming a nearly continuous layer on the surface of the blackened wood, small (150–200 μ), subglobose, nearly glabrous; ostiolum papilliform. Asci clavate-cylindrical, short-stipitate, paraphysate p. sp. about 55 x 12 μ. Sporidia biseriate, oblong-fusoid, slightly curved, obtuse, mostly a little narrower at one end, hyaline at first, soon pale-brown, 3-septate, 14–17 x 4½–5½ μ.

Some of the perithecia are smaller and contain oblong-elliptical, brown, uniseptate and constricted spores 8–11 x 5–6 μ. *Diplodia*.

M. fuscidulum Sacc. has the sporidia about the same but the perithecia are rather larger, with a cylindric-conoid ostiolum, and are scattered or only gregarious and do not blacken the wood.

Melanomma subcongruum E. & E.

On outer bark of cottonwood trees. *Populus monilifera*, Rockport, Kansas, Sept. 1894. E. Bartholomew No. 1,584.

Perithecia gregarious or erumpent-superficial, the base remaining more or less sunk in the bark, ovate, slaty-black and muriculately roughened below, ½–¾ exceptionally 1 mm. diam. The conical perforated ostiolum black and shining.

Asci clavate-cylindrical, 150–190 x 12–14 μ, p. sp. 114–120 μ long, surrounded by abundant, filiform paraphyses, 8-spored. Sporidia overlapping-uniseriate, oblong, a little narrower at the lower end, obtuse, slightly curved, 3–5-septate, slightly constricted at the septa, pale brown.

Allied to *M. medium* Sacc. and Speg. and to *M. juniperinum* Karst. but differs from both in its much larger perithecia and longer asci, and from the former in its 3–5-septate sporidia.

Ceratostoma melaspermum E. & E.

On rotten wood. Ohio, Morgan No. 1,041.

Perithecia gregarious, buried, depressed-globose, membranaceous, ½–¾ mm. diam., with a straight, black, erumpent beak about 1 mm. long, obtuse and often expanded at the top into a small, horizontal, circular disk, and surrounded at the base with spreading, light-yellow hairs forming a loose, tomentose-pilose tuft. Asci cylindrical,

short-stipitate, 65–75 x 6–7 μ, with faint paraphyses. Sporidia uniseriate, navicular, 2-nucleate, 12–15 x 5–6 μ, hyaline at first, becoming opake and nearly black.

One would expect this to be *Sphaeria investita* Schw., Syn. N. Am. 1,621, but the specc. of that species in Herb. Schw. are not distinguishable from *Ceratostomella cirrhosa* (Pers.) except in having a small patch of yellowish-brown tomentum around the base of the ostiola.

Ceratostoma albomaculans E. & E.

On rotten wood. Ohio. Morgan.

Perithecia entirely buried, large (1 mm. diam.), membranacco-coriaceous, 1–3 together. Ostiola erumpent, ovate-conical, black, smooth. Asci cylindrical, p. sp. 75–80 x 7 μ, paraphysate. Sporidia uniseriate, inequilaterally elliptical, obtuse 1–2–nucleate, olive-brown, 11–14 x 5–6 μ.

The ostiola are erumpent in a yellowish-white subelliptical spot 1–2 mm. in diameter.

C. avocetta C. & E. has the perithecia only half as large and the sporidia smaller; the white spots also, under which the perithecia are buried, seem to be characteristic.

Amphisphaeria confertissima E. & E.

On weatherbeaten wood, Ohio. Morgan.

Perithecia superficial, subglobose, 210–220 μ diam. slightly papillate-roughened, black, densely crowded in oblong patches ½–1 cm. long and 2–3 mm. wide or often by confluence of greater extent. Ostiolum papilliform, black. Asci cylindrical, short-stipitate, p. sp. 55–60 x 8 μ, paraphysate, 8-spored. Sporidia obliquely uniseriate, ovate-elliptical, brown, uniseptate and constricted, 9–11 x 5–6 μ.

Comes near *A. Spegazziniana* Sacc. but that has larger, short-fusoid, sporidia and (sec. fig. in F. Ital. 135), slightly swollen each side of the septum.

Amphisphaeria pilosella E. & E.

On decaying wood of some deciduous tree. Ohio. Morgan, No. 1,103.

Perithecia gregarious, superficial, subcarbonaceous, minute, 200–250 μ diam., subglobose, slightly collapsing above, sparingly clothed at first with short, pale, weak, spreading hairs. Ostiolum papilli-

form, minute, but distinct. Asci cylindrical, 65–70 x 6 μ, narrowed below into a stipe 25–30 μ long, p. sp. 55–60 μ long, indistinctly paraphysate, 6–8-spored. Sporidia uniseriate, lying end to end in the asci, oblong-elliptical, uniseptate, but not constricted, pale brown, 7–10 x 3½–4 μ.

Differs from *A. Oronoensis* in its larger, pilose, sub-collapsed perithecia and rather larger sporidia.

Teichospora nitida E. & E.

On dead stems of *Rubus deliciosus*, Rist Cañon, Colo., April, 1894. Prof. C. S. Crandall, No. 108, and on *Rubus villosus*, Nuttallburg, West Va., May, 1895. L. W. Nuttall, No. 706.

Perithecia thickly scattered, ovate-globose, 350–400 μ diam., at first covered by the epidermis which is raised and pierced by the black, papilliform ostiola, at length, when the epidermis falls away, superficial. Asci clavate-cylindrical, paraphysate, 8-spored, 90–110 x 11–13 μ. Sporidia uniseriate or subbiseriate above, oblong-elliptical, obtusely pointed, 3–5-septate, with a longitudinal septum running through part or all the cells, 15–20 x 8–10 μ, pale, yellowish-brown, slightly or not at all constricted in the middle.

The West Va. specc. have the perithecia rather smaller 250–300 μ diam.

Teichospora minima E. & E.

On a dry oak post, mixed with *Rosellinia pulveracea* Ehr., var. *microspora*, Rockport, Kansas, Oct., 1894. E. Bartholomew 1,591.

Perithecia scattered, small 100–110 μ, collapsing, nearly smooth, with a papilliform ostiolum. Asci clavate-oblong, short-stipitate, 50 x 12–15 μ p. sp. 40–46 μ long, paraphysate, 8-spored. Sporidia crowded-biseriate, elliptical, about 5-septate, not constricted, 12–15 x 7–8 μ, olive brown.

Differs from *T. pygmaea* E. & E. in its smaller, collapsed perithecia and shorter asci.

Lophiostoma clavisporum E. & E.

On dead culms of *Elymus Canadensis*. Rooks Co., Kansas March 18, 1895. Bartholomew, No. 1,694.

Perithecia scattered or gregarious, buried, except the erumpent, thin, flattened ostiolum, 300 x 150 μ, culms mostly blackened on the surface. Asci clavate-cylindrical. short-stipitate, paraphysate, 40–60 x 12 μ. Sporidia crowded in the asci, clavate, 3–5-septate,

mostly constricted at the septa, yellow-brown, 20–27 x 5–6 μ, slightly curved, obtusely rounded above, gradually narrowed below.

Differs from *L. insidiosum* in the sporidia being without appendages.

Lophiostoma Dakotense E. & E.

On decorticated limbs of Cottonwood, *Populus monilifera*. Dakota Oct., 1894. Prof. T. A. Williams, No. 151.

Perithecia gregarious, semi-immersed, subglobose, 200–250 μ, diam., black-brown, with a conical, slightly compressed ostiolum. Asci clavate-cylindrical, short-stipitate, 65–75 x 10–12 μ, with abundant, filiform paraphyses. Sporidia biseriate, oblong-fusoid, uniseptate at first, soon becoming 3-septate and constricted at the septa, nearly straight, hyaline, or at length subolivaceous, 15–20 x 5–6 μ. Accompanied by a *Phoma* with perithecia erumpent-superficial, 100–120 μ, diam., soon collapsed to almost cup-shaped, and with oblong-elliptical sporules, 2–3 x 1–1½ μ, smoky-hyaline. Near *L. duplex* Karst. but is smaller in all its parts.

Cucurbitaria stenocarpa E. & E.

On dead stems of *Rhus diversiloba*. Pasadena, Cala., Aug., 1884. Prof. A. J. McClatchie, No. 766.

Perithecia in groups of 2–6 together, bursting out through short, narrow-elliptical, longitudinal cracks in the epidermis and not rising much above it, subglobose, 350–400 μ diam., brownish-black, rough, collapsing, with a small, papilliform ostiolum. Asci cylindrical, short-stipitate, 100–110 x 8–10 μ, paraphysate, 8-spored. Sporidia uniseriate, oblong-elliptical, 3–5-septate, mostly constricted in the middle, one or more of the inner cells divided by a longitudinal septum, hyaline at first, tardily becoming pale yellow-brown, 15–20 x 6–8 μ.

Sphaerella Nicotianae E. & E.

On living bark of *Nicotiana*. Hollister, Cala., Dec., 1894. W. C. Blasdale.

Perithecia, mostly on light-colored spots, subcuticular, globose, 80–100 μ diam,, the papilliform ostiolum barely piercing the epidermis, and soon deciduous, leaving the perithecia perforated above. Asci oblong-obovate, sessile, aparaphysate, 35–45 x 15–20 μ. Sporidia crowded in the asci, oblong-obovate, uniseptate, hyaline, obtuse, scarcely constricted, 11–13 x 5–6 μ.

Accompanied by a *Pleospora* not distinguishable from *P. Herbarum* (Pers.).

Sphærella vagans E. & E.

On dead stems of *Valeriana sylvatica* Gray and *Castilleia miniata* Dougl.

On the slope of Mt. Richtophen, N. W. Colorado, 9,500 ft. alt.

Perithecia scattered, subcuticular, becoming superficial by the peeling off of the epidermis, depressed-globose, or subelliptical, of tough, coarse cellular structure, perforated above, 250–300 μ in the longer diameter. Asci cylindrical, subsessile, p. sp. 55–60 x 7–8 μ. Sporidia biseriate, ovate, uniseptate, constricted at the septum, hyaline, 12–16 x 5–7 μ. Mixed with the ascigerous perithecia were spermogonial perithecia containing oblong-elliptical hyaline sporules 5–6 x 2 μ, but whether belonging to the *Sphærella* or to *Leptosphæria concinna* E. & E. found on the same stems, is uncertain.

Physalospora Corni E. & E.

On dead twigs of *Cornus*. Fort Collins, Colorado, March 1895. C. F. Baker, No. 329.

Perithecia thickly scattered, globose about 200μ diam. white inside, covered by the blackened-epidermis, which is raised into pustules barely pierced by the papilliform ostiola. Asci clavate-cylindrical, 70–90 x 11–13 μ, short-stipitate, aparaphysate. Sporidia biseriate, navicular-fusoid, continuous, hyaline, very slightly curved, 20–26 x 4–5 μ.

Didymella Ricini E. & E.

On dead petioles of *Ricinus communis*, Louisiana. Langlois, No. 2,414.

Perithecia gregarious, minute, 110–150 μ, subcuticular, raising the epidermis into black, flattish pustules resembling a young *Vermicularia*, scattered singly or sometimes 2-3 in the same pustule, Ostiola inconspicuous. Asci oblong-clavate, very short stipitate, 45–55 x 8–10 μ. Sporidia biseriate, oblong, obscurely nucleate, becoming uniseptate, not constricted, curved, obtuse, hyaline, 13–18 x 4–4½ μ.

There is no stroma or any circumscribing line.

Didymosphæria Celtidis E. & E.

On dead limbs of *Celtis occidentalis*. Rooks Co., Kansas, May, 1895. E. Bartholomew.

Perithecia thickly scattered, globose, small, about 300 μ diameter, covered by the epidermis which is raised into pustules pierced above by the papilliform ostiolum. Asci ventricose-oblong, sessile, 55–60 x 18–25 μ, obscurely paraphysate, 8-spored. Sporidia crowded-biseriate, obovate, uniseptate and slightly constricted, brown, 20 x 10 μ, or sometimes regularly elliptical, 20–25 x 10–12, μ, both in the same ascus.

The asci soon disappear and then the fungus may be mistaken for a *Diplodia*.

Pleospora Coloradensis E. & E.

On dead stems of *Polemonium confertum* Gray. Cameron Pass, N. W. Colo., above timber, July, 1894. C. F. Baker, No. 273.

Perithecia scattered, subcuticular, subglobose, 200–230 μ, diam., of coarse, dark cellular structure, with a scanty mycelial fringe around the base. Ostiolum papilliform, or conic-papilliform, perforating the epidermis. Asci oblong, short-stipitate, 100–130 x 25–30 μ, with paraphyses more or less distinctly branched. Sporidia biseriate, oblong or ovate-elliptical, scarcely or often distinctly constricted in the middle, yellow-brown, 6–8-septate and becoming clathrate-muriform, ends mostly rounded and obtuse, 27–35 x 12–15 μ, slightly compressed.

The sporidia much resemble those of *P. juncicola* E. & E., but are not so much compressed, and the perithecia are smaller than in that species, with walls of finer cellular, structure, having a reddish tinge under the microscope.

Pleospora juncicola E. & E.

On dead culms of *Juncus balticus*, North Park, Colo., July, 1894, alt. 9,000 ft. Prof. C. S. Crandall, No. 75.

Perithecia scattered or gregarious, depressed-globose, 110–150 μ diam., covered by the cuticle, then subemergent. Ostiolum slightly papilliform, soon perforated. Asci oblong, short-stipitate, broadly rounded above, obscurely paraphysate, 75–110 x 25–30 μ. Sporidia biseriate, elliptical, compressed, mostly not much constricted in the middle, 25–35 x 15–18 μ, and 10–12 μ thick, golden-yellow, about 7-septate, and when viewed on the flattened sides, densely clathrate-muriform, with about 4 rows of cells 4 μ diam., but when seen edgewise, simply 5–7-septate.

Leptosphaeria lethalis E. & E.

On dead stems of *Pentstemon confertus*. Latah Co., Idaho, July, 1894. Prof. C. V. Piper, No. 330.

Perithecia erumpent-superficial, gregarious, subglobose, ¼–⅓ mm. diam., with a papilliform ostiolum. Asci clavate-cylindrical, 50–60 x 7–8 μ, with abundant paraphyses, 8-spored. Sporidia fusoid, slightly curved, 3-septate not constricted, unless slightly so at the middle septum, 50–60 x 3½–4 μ.

The perithecia appear on the living stems which are soon blackened and killed.

Leptosphaeria concinna E. & E.

On dead stems of *Castilleia miniata* Doug. Mt. Richtophen, N. W. Colo., July, 1894. C. F. Baker, No. 271, partly.

Perithecia scattered, subcuticular, subglobose, 200–300 μ diam., at length semiemergent, but still more or less covered by the blackened cuticle; ostiolum papilliform. Asci clavate-cylindrical, 70–80 x 7–10 μ, paraphysate, short-stipitate. Sporidia biseriate above, fusoid, pale-yellow, 5-septate, slightly curved, one or two of the middle cells slightly swollen, 20–27 x 3–4 μ.

L. Ogilviensis R. Br., has the asci and sporidia larger; in *L. tenera* Ell., they are smaller, and in *L. agnita* the sporidia are 6–7-septate and larger.

Metasphaeria quercina E. & E.

On dead twigs of *Quercus coccinea*, var. *tinctoria*. Newfield, N. J., June, 1895.

Perithecia gregarious, buried, globose, 250–300 μ diam., raising the blackened epidermis into pustules pierced at the apex by the papilliform ostiolum. Asci cylindrical, short-stipitate, 170–190 x 12 μ. Paraphyses filiform, shorter than the asci. Sporidia uniseriate, oblong, 3-septate, and constricted at the septa, hyaline, 20 x 7–9 μ.

Differs from *M. Fiedleri* (Niessl), in its cylindrical asci and cylindrical-oblong, not fusoid, straight sporidia.

Ophiobolus Helianthi E. & E.

On dead stems of *Helianthus Maximiliani*. Rockport, Kansas, March, 1895. Bartholomew, No. 1,681.

Perithecia scattered, erumpent-superficial, ovate-globose, about ¼ mm. diam. Asci clavate-cylindrical, p. sp. 40 x 7–8 μ, paraphysate,

8-spored. Sporidia fasciculate, elongated-fusoid, brownish in the asci, nearly hyaline when free, 3-septate, not constricted, nearly straight, about 40 x 3½–4 μ.

Ophiobolus purpureus E. & E.

On dead stems of some Umbelliferous plant, on Mt. Richtophen, N. W. Colo., alt. 9,500 ft., Aug 1894. C. F. Baker, No. 277.

Perithecia gregarious, buried on parts of the stems stained purple-red, ovate-globose, about 250 μ diam., covered by the blackened epidermis which is raised into slight pustules and pierced by the prominent-papilliform ostiolum. Asci clavate-cylindrical, sessile, paraphysate, obtuse, 80–100 x 12–15 μ. Sporidia crowded, elongated-fusoid, moderately curved, about 6-septate, 50–65 x 5–6 μ, one cell, near the middle, swollen, yellowish-brown.

Differs from *O. porphyrogonus* (Tode) and *O. consimilis* E. & E. in its broader asci and sporidia. *O. fulgidus* C. & P. has the perithecia emergent and no swollen joint in the sporidia.

Thyridium pallidum E. & E.

On dead limbs of *Rhus glabra*. Rooks Co., Kansas, May 1895. Bartholomew No. 1,711.

Perithecia scattered, depressed-globose, about ⅓ mm. diam., sunk in the surface of the inner bark, dirty white above, covered by the epidermis which is perforated by the conic-papilliform, amber-colored ostiola, but not raised into pustules. Asci cylindrical, 110–130 x 12 μ, short-stipitate, paraphysate. Sporidia uniseriate, oblong-elliptical, 8-septate, constricted, in the middle, the cells mostly divided by a longitudinal septum, yellow-brown, 20–22 x 8–10 μ.

There is no outward indication of the fungus except the numerous, small round perforations in the epidermis, but when this is stripped off, the surface of the inner bark is seen to be dotted with the round, pallid, slightly prominent apices of the perithecia.

Anthostomella albocincta E. & E.

On dead culms of *Arundinaria*, Louisiana. Langlois.

Perithecia sunk in the unaltered substance of the culm, without any stroma or any circumscribing line, globose, 500–600 μ diam., with thick, coriaceous walls. Ostiola erumpent, globose, often collapsing, surrounded by the slightly raised, whitened epidermis. Asci cylindrical, stipitate, p. sp. 80–100 x 6–7 μ. Paraphyses evanescent. Sporidia uniseriate, mostly overlapping, subfusoid-oblong, scarcely

curved, 13–16 x 3½–4 μ, brown with a hyaline, minute, subglobose appendage at the lower end. The perithecia are mostly scattered singly, but here and there they are collected in groups of 3-4, with their ostiola collected in a fascicle.

This differs from *A. stegophora* (Mont.) in its scattered or grouped not, seriate, perithecia, and in its permanently oblong appendiculate sporidia; from *A. Bambusæ* Lev. in the absence of any stroma.

Valsa leucopsis E. & E.

On bark of *Fraxinus viridis*? Cody, Nebraska, March 28, 1893. Rev. J. M. Bates. Comm. Prof. Thos. A. Williams.

Stroma, depressed-conical, ¾-1 mm. diam., orbicular, consisting of the nearly unaltered substance of the bark, the flattened apex erumpent and snow-white. Perithecia 6-12, circinate in the bottom of the stroma, about 150 μ diam., abruptly contracted above into slender necks, their black, punctiform ostiola, erumpent through the snow-white disk but not exserted. Asci clavate-cylindrical, 22–27 x 5–6 μ. Sporidia biseriate above, allantoid, hyaline, slightly curved, 5–6½ x 1–1½ μ

Has the outward appearance of *Valsa leucostoma* (Pers.) or *V. nivea* (Hoff.), but the asci and sporidia are smaller and there is no conceptacle enclosing the stroma, besides the different habitat.

Eutypella alpina E. & E.

On dead trunks of *Alnus incana*. Larimer Co., Colo., July 1895. Alt. 7,000 ft. C. F. Baker, No. 363.

Stroma seated on the wood, depressed conical, orbicular or elliptical, 3-4 mm. diam., white inside, enclosed in a stout, black, subcarbonaceous shell, circumscribed by a black line penetrating the wood. Perithecia 20-30 in a stroma, monostichous, crowded, ovate-globose, ⅓ mm. diam., necks slender, rising through the white substance of the stroma and terminating in a compact fascicle of stout, subglobose, quadrisulcate ostiola erumpent through transverse cracks in the epidermis or closely surrounded by it. Asci, p. sp., 22–24 x 4–5 μ, long stipitate, with stout, nucleate paraphyses exceeding them in length. Sporidia subbiseriate, allantoid, yellowish, moderately curved, 7–10 x 1½–2 μ.

Differs from *E. similis* (Karst.) in its larger sporidia from *E. alnifraga* (Wahl.) in the shorter spore-bearing part of the asci, and from both in the much more numerous perithecia.

Eutypella herbicola E. & E.

On dead stems of *Aster cordifolius*. Ohio. Morgan No. 1,122.

Stroma elongated, 5 or more cm. long, and 2-3 mm. wide, slaty-black outside, circumscribed by a black line which penetrates deeply into the substance of the stem. Perithecia globose, 300-450 μ diam. not deeply buried, lying either singly or 3-10 together in valsoid groups. Ostiola erumpent, tuberculo-globose or short-cylindrical with their tips swollen, quadrisulcate. Asci, p. sp., fusoid-clavate, 30–35 x 5–6 μ, with a slender stipe. Paraphyses obscure or none. Sporidia allantoid, yellowish, slightly curved, obtuse, 6–8 x $1\frac{3}{4}$–2 μ.

Differs from *E. cerviculata* (Pers.) in its partly scattered perithecia and herbicolous growth, in which respect it approaches *Cryptosphæria*.

Diatrypella Fraxini E. & E.

On dead limbs of *Fraxinus viridis*. Rooks Co., Kansas, July, 1895. E. Bartholomew, No. 1,783.

Stroma cortical and convex, 2–3 mm. diam., formed of the slightly altered substance of the bark, without any distinct circumscribing line. Perithecia 8–12 in a stroma, globose, 250–300 μ diam., ostiola united in a brownish-black, erumpent disk, only slightly projecting, becoming 4-cleft. Asci clavate, 110 x 12 μ, long-stipitate, paraphysate, polysporous. Sporidia crowded, allantoid, yellowish-hyaline, curved, 6–8 x $1\frac{3}{4}$–2 μ.

The stromata raise the bark into distinct pustules, to the sides of which the lobes of the ruptured epidermis closely adhere.

Melogramma boreale E. & E.

On bark of dead *Abies*, Newfoundland. Waghorne.

Stromata gregarious, erumpent, bordered by the lacerated, upturned epidermis, suborbicular or irregular, 1–2 mm. diam., or by confluence subflexuous, black, roughened above by the prominent, obtuse ostiola. Perithecia buried in the stroma, not numerous. Asci clavate-cylindrical, 75–80 x 12 μ, with a short stipe, paraphysate, 8-spored. Sporidia biseriate, clavate-oblong or ovate-oblong, uniseptate and constricted in the middle, each cell finally becoming uniseptate, slightly narrowed toward each end, but not acute, 10–13 x $3\frac{1}{2}$–$4\frac{1}{2}$ μ.

Resembles *M. Hibisci* (Schw.).

Hypoxylon Californicum E. & E.

On wood of *Adenostylum fasciculatum*, Pasadena, Cala., Aug., 1894. Prof. A. J. McClatchie, No. 755.

Stroma interruptedly effused continuous for 2–4 cm., or subrobicular, ½–1 cm. across, about 1 mm. thick, margin abrupt, sometimes the upper edge slightly projecting, conidial layer rusty-red, same color as in *H. perforatum* (Schw.) Perithecia monostichous, ovate, ½–⅓ mm., the apices only slightly prominent, with small, papilliform ostiolum, finally perforated. Asci cylindrical, rather long-stipitate, abundantly paraphysate, 8-spored, p. sp. 90–110 x 7–8 μ. Sporidia uniseriate, oblong-navicular, 14–18 x 6–7 μ, yellowish at first, with a single large central nucleus, finally opake.

Distinguished from *H. rubiginosum* (Pers.), by its larger sporidia.

Phyllachora Plantaginis E. & E.

On leaves of *Plantago Rügelii*, Racine, Wis., Oct., 1894. Dr. J. J. Davis, No. 943.

Epiphyllous, gregarious, on dead areas of the leaf, convex-hemispherical, black, ¼–⅓ mm. diam., or 2–3 confluent and then larger, base innate in the surface of the leaf, apex papilliform. Cells filled with oblong, hyaline, 2-nucleate stylospores 6–8 x 2–2½ μ. Asci not yet formed.

Evidently the early stage of *Phyllachora*.

Dothidella longissima (Pers.) E. & E.

Sphaeria longissima Pers., Syn. p. 31. *Phoma longissima* West. Not. III, p. 13.

Perithecia densely gregarious, seated on a thin, black subiculum forming long, narrow, black, ribbon-like strips 1–1½ mm. wide, extending from node to node on the stems, minute, slightly prominent, not confluent, covered at first by the blackened epidermis. Ostiola inconspicuous, or minutely papilliform. Asci oblong, 40 x 7–9 μ, nearly sessile, paraphysate. Sporidia biseriate, oblong, uniseptate, but scarcely constricted, obtuse, hyaline, 12–15 x 3½ μ.

On dead stems of *Chenopodium album*, Kansas. Bartholomew & Shear.

Homostegia coscinodisca E. & E.

On bark of birch trees. Newfoundland. Waghorne.

Stromata erumpent-superficial, discoid-pulvinate, ½-¾ mm. diam., pierced above with 6-8 small round openings but without any prominent ostiola. Ascigerous cells about 75 μ diam., with thin subhyaline walls so that they are not easily distinguished. Asci oblong,

subsessile, 55–60 x 12–15 μ, aparaphysate, 4-8 spored. Sporidia mostly biseriate, varying from elliptical to oblong and 8–22 x 8–10μ; 3-septate and constricted at the septa, especially at the middle one, where they readily separate, obtuse at the ends, hyaline. Belongs in Saccardo's subdivision *Roumegueria* and allied to, but apparently different from *H. durissima* Berk.

Ciboria Liquidambaris E. & E.

On decaying capsules of *Liquidambar*. Naamans Creek, Delaware, May 1895. A. Commons, No, 2,710.

Gregarious stipitate, 4–5 mm. high. Ascoma about 2 mm. broad, orbicular, convex and brownish when dry, margin paler, Stipe, white or dirty-white, puberulent. Asci clavate, stipitate, 75–80 x 7–8 μ, with filiform paraphyses. Sporidia subbiseriate, oblong, hyaline, continuous, 8–11 x 3 μ.

Mollisia Asclepiadis E. & E.

On dead stems of *Asclepias*. London, Canada, July, 1895. Dearness No. 2,283.

At first covered by the epidermis, then erumpent-superficial, orbicular, ⅓ mm. diam., pale slate-color, margin coarsely toothed or subentire, plano-convex, much shrunken when dry. Asci cylindrical, short-stipitate, paraphysate, 8-spored, 55–60 x 6 μ. Sporidia mostly biseriate, subinequilaterally elliptical, 2-nucleate, hyaline, 8–10 x 3 μ

Closely allied to *Peziza abdita* Ell. but disk darker, sporidia broader and ascoma not as completely withdrawn beneath the epidermis when dry.

Cenangium conglobatum E. & E.

On dead limbs of some deciduous tree or shrub. Bay of Islands, West Coast of Newfoundland, July 1895. Rev. A. C. Waghorne, No. 42.

Densely cespitose, forming compact tufts or balls 3-4 mm. diam. Ascomata cup-shaped, stag-color or ferruginous inside and out, margin light-colored and fringed with short, pale, smooth hairs, outside granulose-pilose. Asci clavate-cylindrical, sessile, 8-spored, 30 x 5–6 μ. Sporidia subbiseriate, allantoid, 2-nucleate, hyaline, obtuse, slightly curved, 5–6½ x 2–2½ μ. Paraphyses filiform, with a knob-like thickening at the tips. Asci and paraphyses have a ferruginous tint.

Chlorosplenium striisporum Ell. & Dearness.

On decaying leaves. London, Canada, July 1895. Dearness No. 2,281.

Sessile, hemispherical, 1-1½ mm. diam., greenish-yellow, thin, hemispherical, with the margin incurved and toothed, rough verrucose-squamose outside, pale yellow inside, substance soft-carnose. Asci clavate-cylindrical, stipitate, p. sp. 70–75 x 15–20 μ. Paraphyses filiform, longer than the asci. Sporidia irregularly crowded in the asci, elliptical, smooth and hyaline at first, pale-brown and longitudinally striate when mature, 15–20 x 9–11 μ.

Cenangella abietina E. & E.

On bark of dead *Abies*. Newfoundland. Waghorne.

Ascomata erumpent-superficial, gregarious, black, orbicular, about ½ mm. diam. with the margin thin and suberect. Asci clavate-cyclindrical subsessile, 60–75 x 12 μ, 8-spored. Sporidia biseriate, ovate-elliptical, yellowish, becoming brown, 2-nucleate, becoming uniseptate, 12–18 x 6–7 μ.

Patellea hysterioides E. & E.

On weather-beaten pine lumber. Rooks Co., Kansas. E. Bartholomew.

Ascomata erumpent-superficial, ⅓-½ mm. diam., black, the opposite sides incurved, when dry, so as to give the appearance of a *Hysterium* with an open disk. Asci obovate, 30–35 x 20 μ, with a short, nodular stipe. Paraphyses united above into a black or purplish-black epithecium. Sporidia crowded, obovate, uniseptate and constricted, 14–18 x 8–10 μ, ends rounded and obtuse hyaline.

P. stygia (B. & C.) is said to have the sporidia subattenuated at each end, which is not the case with this species.

Duplicaria acuminata E. & E.

On culms of *Juncus Drummondii*, Cameron Pass, Colo., July, 1894. Prof. C. S. Crandall, No. 83.

Ascomata scattered, shield-shaped, ½–1 mm. diam. astomous, convex when moist, collapsing and wrinkled or ridged when dry, black and shining, manner of dehiscence not seen. Asci clavate-cylindrical, obtuse at the apex, gradually narrowed to the base, 80–110 x 11–12 μ, paraphyses none. Sporidia 8 in an ascus, irregularly crowded, bifusoid, i.e. consisting of two fusoid sporidia joined end to end, 30–35 x 2½–3 μ, hyaline, acuminate at each end, but more distinctly so below.

D. Empetri Fckl. has the sporidia larger 58 x 6 μ and obtuse at the ends. *D. Cochinchinensis* K. & H. has sporidia shorter and broader.

Phyllosticta amicta E & E.

On leaves of *Arctostaphylos viscida* and *A. Manzanita*, Jackson, Amador County, Cala., 1894. Geo. Hansen, Nos. 129 and 130.

Spots cinereous, with a narrow, reddish-purple border, orbicular, 3–4 mm. diam. Perithecia amphigenous, erumpent, depressed-globose, 120–200 μ diam., overrun with a hyphomycetous growth, *Alternaria*, which also spreads more or less over the surface of the leaf. Sporules ovate or elliptical, 7–10 x 5–6 μ, light straw-yellow.

On *A. Manzanita* the perithecia are scattered over reddish-brown dead parts of the leaf, mostly the upper half, without any definite spots. The *Alternaria* has conidia composed of globose, brown cells 7–8 μ diam., joined in toruloid threads, or collected in irregular shaped masses, or forming concatenate conidia 10–30 x 8–20 μ.

Phyllosticta Trillii E & E.

On leaves of *Trillium petiolatum*, Pullman, Wash., June, 1894. Prof. C. V. Piper, No. 341.

Spots small, 2–3 mm., round, dirty-brown, grayish in the center, margin darker, with a yellowish-shaded border. Perithecia innate, epiphyllous, globose, about 75 μ diam. Sporules oblong, hyaline, continuous, 10–14 x 2–2½ μ. On the same spots is a *Cladosporium C. Trillii* E. & E. Tufts effused, slate-color. Hyphae septate, brown, 60–70 x 5–6 μ. Conidia oblong, brown, 1–3-septate, 15–22 x 5–7 μ.

Phyllosticta Rudbeckiae E & E.

On leaves of *Rudbeckia laciniata*, Kenosha Co., Wis., Sept., 1894. Dr. J. J. Davis, No. 942.

Spots nearly black, irregular subelliptical or suborbicular, ½–¾ cm. diam., definite with the border darker than the center. Perithecia epiphyllous, scattered, black, small, hemispheric-prominent. Sporules oblong-cylindrical, hyaline, straight or slightly curved, obtuse, 8–12 x 2–2½ μ.

Phyllosticta solitaris E & E.

On leaves of *Pirus coronaria*, Crawfordsville, Ia., Oct., 1893. Prof. L. M. Underwood.

Spots minute, 1 mm., round, pale-white, with a darker border.

Perithecia epiphyllous, solitary, one in the center of each spot, 75 μ diam. Sporules subglobose, hyaline, nucleate, 5–6 μ diam.

Phyllosticta castanicola E. & E.

On leaves of *Castanea chrysophylla*, Sisson, Cala., July, 1894. Prof. Marshall A. Howe, No. 122.

Spots epiphyllous, dark-brown, suborbicular, 2–5 mm. diam., with a narrow, dark, subfimbriate border, scarcely visible on the lower face of the leaf. Perithecia crowded on the spots, buried in the substance of the leaf, hard and tough, orbicular or elliptical, 80–100 μ diam., sometimes 2–3 confluent, the apex erumpent and broadly perforated. Sporules abundant, minute, oblong, 3–3½ x 1¼–1½ μ, hyaline. The tough, almost sclerotioid perithecia indicate that this may be the stylosporous stage of some *Phyllachora*, or other dothideaceous fungus. Very different from *Ph. Castaneae* E. & E.

Asteroma infuscans E & E. N. A. F. 3,361.

On dead stems of *Iva xanthifolia*, Fort Collins, Colo., Feb., 1895. C. F. Baker, No. 234.

Fibrils appressed, branched, radiate, at length often disappearing, leaving the surface of the stem blackened for several 5–10 cm. in extent, the blackened areas mostly surrounding the stem and more or less distinctly limited. Perithecia abundant, pustuliform, perforated above, 90–150 μ diam. Sporules oblong-elliptical, hyaline, continuous, 3–5 x 1–1½ μ.

Asteroma Parkinsoniae E. & E.

On pods of *Parkinsonia Torreyana*, Tucson, Arizona, Sept., 1893. Prof. J. W. Toumey, No. 14.

Perithecia emergent-superficial, subdepressed, 150 μ diam., at first a single one seated in the center of an appressed, gray, radiating mycelium, at length smaller perithecia appear along the radiating arms of the hyphae. Sporules oblong, hyaline, 2–3-nucleate, 15–20 x 5–7 μ, ends obtusely rounded.

Aposphaeria Ohiensis E. & E.

On rotten wood. Ohio. Morgan, No. 1,068. Perithecia gregarious, depressed-globose, minute, 150 μ, papillate. Sporules oblong-elliptical, continuous, hyaline, 2½–3 x 1 μ, borne on stout, fasciculate basidia 10–12 x 1½–2 μ below, slightly tapering above.

Dothiorella fraxinicola E. & E.

On bark of dead *Fraxinus*. Long Pine, Nebraska, June, 1895. Rev. J. M. Bates.

Perithecia erumpent-superficial, densely gregarious, or here and there collected in botryoid clusters connected by an imperfect stroma, ⅛–½ mm. diam., with a papilliform or short-cylindrical ostiolum, finally collapsing above and broadly perforated. Sporules oblong-fusoid, 18–30 x 6–7 μ, hyaline, continuous, on slender basidia about as long as the sporules.

Differs from *D. Fraxini* E. & E., and from *D. fraxinea* Sacc. and Roum. in its larger perithecia and its differently shaped sporules.

Dothiorella Crataegi E. & E.

On dead limbs of *Crataegus oxyacantha*, London, Canada, May, 1895. J. Dearness, 1,291 (b).

Stromata gregarious, erumpent, black; flattened pulvinate ½–1½ mm. or more in diameter. Perithecia small, 2–20 in a stroma. Ostiola papilliform. Sporules elliptical, smoky or subolivaceous-hyaline, 18–20 x 10–15 μ on stout basidia, but soon deciduous.

Fusicoccum quercinum E. & E.

On dead limbs of *Quercus coccinea*, var. *tinctoria*, Newfield, N. J., March, 1895.

Stromata numerous, scattered, subcuticular, tuberculo-convex, seated on the surface of the inner bark, erumpent and loosely surrounded by the ruptured epidermis, about 1 mm. diam,, white or whitish inside, obscurely multilocular, enclosed in an outer, coriaceous coat, which is irregularly ruptured above. Sporules fusoid, hyaline, continuous, mostly 2-nucleate, subobtuse, 10–15 x 3–3½ μ. Associated with *Botryosphaeria fuliginosa* (M. & N.).

Diplodia celastrina E. & E.

On dead stems of *Celastrus scandens*, Rockport, Kansas, Jan. 10, 1895. Bartholomew, No. 1,646.

Perithecia buried in the blackened substance of the inner bark small 1¼ mm., either singly or in groups, raising and rupturing the epidermis, but not erumpent, though visible, minutely papillose. Sporules variable; mostly oblong-cylindrical, or clavate-oblong, uniseptate, but scarcely constricted, dark-brown, almost opake, 18–22 x 7–8 μ, others regularly elliptical, lighter brown, smaller 16–20 x 7–8 μ, and deeply constricted.

The shape and size of the elongated sporules is almost the same as figured by Starbäck for those of *Cytoplea propullans* Schw.,

but the arrangement of the perithecia is different and sporules septate.

Diplodia Umbellulariae E. & E.

On dead twigs and limbs of *Umbellularia Californica*, Pasadena, Cala., Aug., 1894. Prof. A. J. McClatchie.

Perithecia scattered singly or oftener in short series of 3–6, bedded in the blackened, almost stromatic, substance of the inner bark and raising and splitting the epidermis into short, longitudinal cracks, through which their minute, papilliform ostiola are barely visible, 150–200 μ diam., whitish inside. Sporules elliptical, broadly constricted at the septum, dark-brown obtuse, 16–20 x 8–10 μ, on pedicels about as long as the sporules.

Similar but smaller perithecia on the same limbs produce, oblong-elliptical, pale-brown, 8–10 x 4–5 μ sporules *Coniothecium Umbellulariae* E. & E.. Other perithecia contain oblong, 5-septate sporules 25–30 x 7–9 μ, on hyaline pedicels 8–12 μ long terminal; cells of sporules hyaline, intermediate ones olive-brown. *Hendersonia Umbellulariae* E. & E.

Diplodia officinalis E. & E.

On dead limbs of *Sassafras officinalis*, New Brunswick, N. J. Prof. B. D. Halsted. Michigan, G. H. Hicks.

Perithecia evenly but thickly scattered, subepidermal, depressed-globose, 150–200 μ diam., covered by the blackened epidermis which is raised into distinct pustules pierced at the apex by the papilliform ostiola. Sporules oblong, dark-brown, septate in the middle, but not constricted, 15–22 x 7–8 μ.

Differs from *D. Sassafras* Tr. & E. in its larger sporules septate in the middle, and in growing on dead, instead of living limbs.

Botryodiplodia ostiolata E. & E.

On bark of dead *Quercus alba*. Ohio. Morgan No. 1,051.

Perithecia fasciculate, 12–20 together, conic-cylindrical, 1–1½ mm. long, white inside, joined at base in a black, subcuticular stroma, erumpent through the thick epidermis, and when growing on the side of a log or limb, curving upward. Sporules elliptical, 20–25 x 11–12 μ, uniseptate, brown.

Ascochyta zeicola E. & E.

On old stalks of *Zea Mays*, Newfield, N. J., May, 1895.

Perithecia gregarious, on slightly darker, irregular shaped or

subelongated areas of the stalk, suberumpent, pierced above, 100–150 μ diam. Sporules oblong-cylindrical, hyaline, yellowish in the mass, uniseptate, not constricted, obtuse, 6–8 x 1½–2 μ.

Very different from *A. zeina* Sacc. which is on the leaves and has sporules 18 x 7 μ.

Diplodina Coloradensis E. & E.

On dead stems of *Gutierrezia Euthamiae*, Fort Collins, Colo, March, 1895. C. F. Baker, No. 333.

Perithecia subgregarious, often subseriate, erumpent-superficial, small, about 200 μ, black and shining, subglbose, with a papilliform ostiolum. Sporules oblong, obtuse, uniseptate, but mostly not constricted, smoky-hyaline, 6–8 x 2½–3 μ.

Near *D. Galii* Niessl, but apparently distinct; that species having ovate, constricted sporules.

Septoria variegata E. & E.

On leaves of *Rhamnus Purshiana*, Shasta Springs, Siskyou Co., Cala., Aug., 1894. W. C. Blasdale.

Spots numerous, dark rusty-brown, becoming light rusty-brown, 2–8 mm. diam., with a small, white spot in the center, or in the larger spots, with numerous white spots arranged so as to present a zonate or marbled appearance, as in *Septoria musiva* Pk. Perithecia epiphyllous, but often visible below, seated on the small white spots, broadly open above, 100–110 μ diam. Sporules clavate-cylindrical, irregularly curved, hyaline, nucleate, becoming 3-septate, 25–55 x 3–4½ μ.

Seems to be quite distinct from all the other species on *Rhamnus*. On account of the imperfectly developed perithecia, this approaches *Cylindrosporium*.

Septoria Asplenii E. & E.

On leaves of *Asplenium angustifolium*, Mich. Ag. College, 1891. G. H. Hicks. Comm., Mr. L. N. Johnson.

Spots dull dirty-white, with a broad reddish-brown border, 3–4 mm. wide, including border. Perithecia sparingly scattered on the spots, small, 65–75 μ, pale-brown, perforated above, only slightly prominent. Sporules filiform, continuous, "several-septate" (sec. Mr. Hicks), curved, subequal, hyaline or greenish-hyaline, 35–45 x 1¼ μ.

Septoria curvispora E. & E., N.A.F., 3,270.

On leaves of *Acer glabrum*, Shasta Springs, Cala., Aug., 1894

W. C. Blasdale and *Septoria macrophylli* E. & E., MS., on leaves of *Acer macrophyllum*, Seattle, Wash., Aug., 1894, Prof. C. V. Piper, should be considered as mere varieties of *Septoria circinata* E. & E., Proc. Phil. Acad., 1894, p. 367.

Amerosporium cinctum E. & E.

On dead stems of *Gladiolus*, Pasadena, Cala., Aug., 1894. Prof. A. J. McClatchie, No. 793.

Perithecia superficial, applanate, 100–150 μ diam., membranaceous, of cellular texture, broadly open above, fringed around the base with spreading, smoky-hyaline, continuous, simple or sparingly branched hairs, 80–120 x 3 μ. Sporules short-elliptical, smoky-hyaline, obtuse, 3½–5 x 2–2½ μ.

Besides the subhyaline hairs that fringe the perithecia, other branching brown threads creeping on the surface of the *Gladiolus* stem, bear ovate, brown, conidia 1-septate at first, then 2–3-septate and submuriform, or sarcinuliform, 12–15 x 7–12 μ.

Phleospora Californica E. & E.

On leaves of *Acer Californicum*, Contra Costa Co. Cala., July, 1895. W. C. Blasdale.

Acervuli on small, 2–3 mm., pale, indefinite spots thickly scattered over the leaf, covered, especially on the upper side of the leaf, by the black, subclypeate perithecia which are obsolete or undeveloped below. Sporules cylindrical, mostly straight, 1–3-septate, 20–35 x 3½–4½ μ, hyaline, not constricted, expelled in white filiform cirrhi on both sides of the leaf.

Differs from *Phl. Aceris* (Lib.), in its black-capped acervuli and white cirrhi.

Gloeosporium castanicolum E. & E.

On leaves of *Castanea vesca*, lying on the ground, Faulkland, Del., Aug., 1887. A. Commons.

Amphigenous but mostly hypophyllous, on light-colored spots or areas of the leaf, also on and alongside of the midrib. Acervuli numerous, minute, yellowish, erumpent. Conidia fusoid, subobtuse, slightly curved, 20 x 2–2½ μ.

On the one leaf examined was an abundance of *Discosia artocreas* (Tode) forming conspicuous, suborbicular, black patches.

Cylindrosporium Rhamni E. & E.

On leaves of *Rhamnus*, sp., Shasta Springs, Cala. W. C. Blasdale, No. 283.

Spots small, 1 mm., white, subconcentrically arranged on larger, definite brown spots, 3–5 mm. diam. Acervuli epiphyllous, erumpent, seated on the white spots, black, 150–200 μ diam. Conidia cylindrical, curved, obtuse, nucleate, hyaline, 35–45 x 3½–4½ μ.

Marsonia Rhamni E. & E.

On leaves of *Rhamnus Purshiana*, Renton, Wash., Aug. 9, 1894. Prof. C. V. Piper, No. 59.

Spots suborbicular, ½–1 cm., whitish in the center, with a broad, dark-purplish border. Acervuli epiphyllous, but also visible below, flesh-colored, 200–250 μ diam. Conidia oblong or elliptic-oblong, uniseptate, hyaline, 6–8 x 2½–3 μ, not constricted at the septum.

Marsonia rubiginosa E. & E.

On leaves of *Salix*? Idaho, 1802. A. J. Mulford.

Spots numerous, small, about 1 mm. diam., or by confluence more, rusty-brown, without any distinct border, more clearly defined on the upper side of the leaf.

Acervuli numerous, 100–150 μ diam., amphigenous, but mostly erumpent below. Conidia elongated-piriform, hyaline, uniseptate near the lower end, often slightly curved, acute below, 11–13 x 2½–4½ μ. Spores smaller and spots different from any of the other species on willow leaves. Comes nearest *M. salicicola* Bres.

Melanconium crinigerum E. & E.

On bark of dead maple. Ohio, Morgan 1,130.

Ascervuli subcutaneous, convex, slate-color, 2–3 mm. diam. Conidia, ovate, elliptical or subglobose 25–40 x 22–30 μ, loosely fibrillose, issuing in black cirrhi which resemble tufts of black wool. Found also on maple at Potsdam, N. Y.

Melanconium Alni C. & E.

Sphaeropsis Alni C. & E., Grev. V., p. 50.

On living bark of *Alnus serrulata*, Newfield, N. J. and on *Alnus rhombifolia*, Pasadena, Cala., August 1894. Prof. A. J. McClatchie.

Acervuli perithecioid, minute, ¼ mm., buried in the inner bark, subcircinate, filled at first with an abundance of subglobose, hyaline sporules 3-4 μ diam., and later on producing elliptical or oblong-elliptical, obtuse, brown conidia resembling those of a *Sphaeropsis*, and borne on stout basidia about 15 μ long, 20–25 x 12–15 μ.

The conidia from each group of acervuli are discharged through a

common orifice and form heaps of spores resembling perithecia. The Newfield specc. are younger and not as well matured but show the same general characters as the California specc.

Sphaeropsis Alni C. & E. in Krieger's Saxon Fungi No. 847, is a true *Sphaeropsis* and different from this.

Ovularia lotophaga E. & E.

On living leaves of *Lotus Torreyi*. Sisson, Cala., July 1894. W. C. Blasdale, No. 288.

Spots irregular or suborbicular, 2-3 mm. diam., grayish-brown, with a narrow, darker border. Hyphae subfasciculate, hyaline, continuous, simple or sparingly branched 15–25 x 2½–3 μ, subgeniculate above. Conidia subglobose or obovate-globose, 7–9 x 5–7 μ.

Ramularia circumfusa E. & E.

On leaves of *Rumex obtusifolius*. Oberlin, Ohio, May, 1894. Prof. F. D. Kelsey, No. 133.

Amphigenous. Spots small, 1-2 mm., whitish, with a brown border, thickly scattered over the leaf. Hyphae often issuing from the stomata of the leaf, very long, 100–150 x 2½–3 μ, vaguely and loosely branched, distantly septate, hyaline, assurgent, subgeniculate and toothed above, Conidia varying from ovate or oblong-elliptical, 5–10 x 2–2½ μ to cylindrical 10–15 x 2–2½ μ, hyaline, continuous, concatenate. Whether the conidia ever became septate we can not say.

Differs from *B. pratensis* Sacc. in its smaller conidia and longer hyphae, and its effused growth, spreading out around the spots so as to form white, orbicular patches 2-3 mm. diam.

Ramularia cercosporoides E. & E.

On leaves of *Epilobium spicatum*. Seattle, Wash. August 1894. Prof. C. V. Piper, No. 290.

Spots numerous, variable in size from 1-3 mm., often confluent in irregular, subangular patches ½-1 cm. diam., dark-purplish, with a dull-whitish center. Hyphae hypophyllous, few in a tuft, arising from a yellow-brown, stromatic base, subgeniculate, continuous or faintly 1-2-septate, brownish-hyaline, nucleate, 30–60 x 3½ μ. Conidia terminal, oblong-fusoid, hyaline, at first continuous, finally narrowed in the middle and 1, or more, septate, 15–30 x 4–5 μ.

Cercosporella Baccharidis E. & E.

On leaves of *Baccharis Douglasii*, Berkeley, Cala., June, 1894. W. C. Blasdale.

Spots suborbicular, 3–4 mm. diam., dirty-brown, greenish at first, mostly wrinkled. Hyphae hypophyllous, cespitose, hyaline, simple, mostly straight and continuous, entire or faintly toothed above, 25–40 x 4 μ. Conidia cylindrical, obtuse at both ends, 1–3-septate, hyaline, 40–60 x 4–4½ μ.

Cercosporella nivosa E. & E.

On leaves of *Pentstemon Digitalis*, Ohio. Morgan, No. 414, and on *P. ovatus*, Idaho. Piper, No. 297.

Spots small, round, 1–2 mm., white, with a narrow slightly raised margin surrounded by a purplish discoloration. Hyphae simple, subattenuated above, nucleate, continuous, 12–15 x μ, long hyaline above, brownish and more or less swollen below, numerous, seated on a hemispherical, cellular, brownish, sphaeriaform base and bearing at their tips the cylindrical, hyaline conidia, 12–25 x 1½–2 μ, nucleate and becoming 1–2-septate.

Differs from *C. Pentstemonis* E. & K., in its smaller hyaline conidia and hyphae, white spots, and narrow, thread-like margin.

Cercospora hibiscina E. & E.

On leaves of *Hibiscus tiliaceus*, Mexico, 1895. Dr. E. Palmer, No. 328.

Hypophyllous. Hyphae sparingly branched, septate, equal, 3½–4 μ diam.. 300–400 μ long, often undulate above, forming loosely interwoven, olive-black patches, 2–4 mm. diam. but not on any definite spots. Conidia clavate-cylindrical, hyaline, about 3-septate, 30–50 x 3½–4½ μ. Apparently the conidial stage of some ascigerous fungus.

This is very distinct from *C. Hibisci* Tr. & Earle.

Cercospora stomatica Ell. & Davis.

On leaves of *Solidago latifolia*, Somers, Wis., June, 1894. Dr. J. J. Davis.

Spots irregular, angular, black, with a yellow shade in the surrounding green part of the leaf, 3–4 mm. diam. Hyphae hypophyllous, issuing in loose tufts of 4–10 from the stomata of the leaf, 32–70 x 4–7 μ, 2–3-septate, subgeniculate, nearly straight, pale-brown. Conidia hyaline or yellowish-hyaline, attenuated above, 4–8, or more, septate, straight or slightly curved, 50–150 x 5–6 μ.

Cercospora Grindeliæ E. & E.

On leaves of *Grindelia* sp. Berkeley, Cala., June 1894. W. C. Blasdale, No. 258.

Amphigenous, scattered in small, more or less confluent patches over both sides of the leaf. Hyphae tufted, short, simple, continuous, 15–35 x 4 μ, subentire, or imperfectly toothed above, subhyaline. Conidia slender-clavate, yellowish-hyaline, granular and nucleate, becoming faintly 3-6-or more-septate, sometimes constricted at one or more of the septa, and often abruptly enlarged at one end, 50–140 x 4–7 μ.

Cladosporium aromaticum E. & E.

On living leaves of *Rhus aromatica*. Pasadena, Cala., August 1894. Prof. A. J. McClatchie, No. 779.

Epiphyllous, scattered, not on any definite spots. Sterile hyphae, scanty, creeping, branched, fertile hyphae scarcely tufted, erect, pale olivaceous, septate and constricted at the septa, subgeniculate, 30–70 x 5 μ. Conidia terminal, concatenate, olivaceous, oblong-cylindrical, uniseptate, not constricted, 12-22, (mostly about 15) x 5 μ.

The hyphae thickly scattered over the surface of the leaf give it a smutty appearance.

Macrosporium toruloides E. & E.

On dead stems of *Urtica Lyallii*. Pullman, Wash., March 1894. Prof. C. V. Piper, No. 320.

Effused, forming a thin, olive-black, velutinous layer for several cm. in extent. Hyphae toruloid, closely septate, branched. Conidia variable, 15–40 x 10–15 μ, 3-6-septate and rather sparingly muriform, the smaller ones sarcinuliform, the larger ones obovate, borne on deciduous, closely septate pedicels 25–45 x 5–5 μ, enlarged above into the conidia.

Both the sterile and fertile hyphae are so closely septate as to resemble threads of *Torula*.

Sporidesmium punctans E. & E.

On bark of living limbs of *Planera aquatica*. St. Laudry, Co., Louisiana, July 1894. Langlois, No. 2,392.

Punctiform, scattered, conidia cespitose, short stipitate, of various shapes, subglobose, 20-30 μ, diam. or often clavate or obpiriform, clathrate-septate, brown, 25–75 x 12–20 μ, including the short, 12-20 μ, septate pedicel.

The tufts of conidia form little black specks, which at a casual glance resemble minute perithecia.

Brachysporium pedunculatum E. & E.

On dead stems of *Sambucus glauca*, Pullman, Wash., March 1894. Prof. C. V. Piper, No. 316.

Tufts punctiform, ½-¾ mm. diam., erumpent and closely bordered by the ruptured epidermis. Sterile hyphae coarse, 6-8 μ thick, branching, sparingly septate, crooked, hyaline, intricately interwoven. Conidia oblong, or the shorter ones ovate, biseptate, but scarcely constricted, brown, borne on short, ovate, brownish basidia 2–15 x 6–8 μ arising from the prostrate hyphae, but finally separating and remaining permanently attached to the conidia.

This agrees with the diagnosis of *B. biseptatum* Sacc. and Roum. only that has dark hyphae ("intense fuligineis") and there is no mention made of the *permanent* basidia so constantly seen in our Washington species.

Macrosporium cucumerinum E. & E.

On living leaves of *Cucumis melo*, Las Cruces, New Mexico, Aug., 1895. Prof. E. O. Wooton.

Epiphyllous, on orbicular, subconfluent, rusty-brown spots, 3–4 mm. diam., becoming whitish in the center. Hyphae fasciculate or solitary, few in a fascicle, subgeniculate, 1–3-septate, 35–50 x 5–6 μ Conidia clavate, slender-stipitate, 3–8-septate, scarcely constricted, submuriform, 30–75 x 15–25 μ, pedicel, 25–35 μ long. Nearly allied to *Macrosporium Solani* E. & M., but differs in its slender-pedicillate, mostly smaller conidia.

Stemphylium laxum E. & E.

On dead stems of *Bigelovia graveolens*, Grand Junction, Colo., May, 1894. Prof. C. S. Crandall, No. 110.

Effused, extending for one or more cm. along the stem and often surrounding it, appearing like a thin, black pubescence. Hyphae decumbent, hyaline, coarse, 8–10 μ diam., continuous. Conidia, 30–50 μ diam., subglobose, sometimes two or three connate, made up of globose brown cells, 8–10 μ diam., loosely compacted and borne either terminally or laterally on the hyphae.

Differs from *S. subradians* E. & E., in its coarser, hyaline hyphae and larger, loosely compacted conidia.

Stemphylium subradians E. & E.

On bark of dead limbs of *Lonicera involucrata*, "Coffee Pot Springs," Colo., Aug., 1894. Alt. 9,500 ft. Prof. C. S. Crandall, No. 93.

Hyphae decumbent, brown, continuous or faintly septate, 2½–3 μ diam., radiating from scattered points of attachment to the matrix and forming a loose network. Conidia subglobose, 20–30 μ diam., composed of globose, brown cells, 5–8 μ diam., and borne on short lateral branches or pedicels, issuing at a right angle from the prostrate threads. To the naked eye the fungus appears like black, thin, velvety patches indefinitely effused and from 2–10 mm. in extent, often surrounding the limb or twig.

Stilbomyces n. gen. Fam. **Stilbeæ**.

Sterile hyphae creeping, scanty, fertile hyphae united in an erect stipe surmounted by a conidiiferous head composed of bundles of flagelliform, nucleate, conidia. Differs from *Stilbum* only in its conidia.

Stilbomyces Berenice E. & E.

On living bark of *Diospyros*, Pointe Aux Loups, Acadia Co., La., Sept., 1894. Langlois, No. 2,396 and 2,400.

Stipe cinerous-white, 1–1½ mm. long and about 100 μ thick, mostly a little curved, slightly attenuated above, and surmounted by a narrow-elliptical, acute head, a little thicker than the stipe. Conidia flagelliform, hyaline, about 60 μ long and 3½–4½ μ thick at the moniliform-nucleate base, constricted between the nuclei, and finally separating into ovate-elliptical, smoky-hyaline joints, 5–7 x 3–4 μ, prolonged above into a continuous, hyaline bristle like crest which constitutes about half the length of the conidia. These conidia are united at the base so as to form tufts of 50–100 conidia with their flagelliform tips spreading out like the bristles of a paint-brush.

Fusarium acuminatum E. & E.

On living stems of *Solanum tuberosum*, Geneva, N. Y., July, 1895. Prof. S. A. Beach, comm. F. C. Stewart.

Sporodochia gregarious, minute, white at first, then flesh-colored. Conidia falcate, attenuate-acuminate at each end, 3–5, exceptionally 6 septate, not constricted, arising from slightly elongated cells of the proligerous layer, in which respect it differs from the usual type of *Fusarium*. Quite distinct from *F. diplosporum* C. & E., which also occurs on the same host.